

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A drive circuit for an ink jet head having nozzles, pressure generating chambers filled with ink to be discharged from said nozzles, and piezoelectric actuators corresponding to respective pressure generating chambers, said ink jet head discharging ink droplets from said nozzles by changing volumes of said pressure generating chambers in response to a drive waveform signal applied to said piezoelectric actuators, said drive circuit comprising:

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a terminal a waveform generator generating said drive waveform signal;

a power amplifier amplifying said drive waveform signal supplied to a first input of said power amplifier and outputting said drive waveform signal to said piezoelectric actuators; and

terminal
a feedback loop feeding a terminal voltage applied to said piezoelectric actuators back to a second input of said power amplifier.

2. (Previously Presented) The drive circuit of claim 1, wherein said feedback loop includes a capacitor producing a lead to phase signal in a high frequency range.

3. (Previously Presented) A drive circuit for an ink jet head having nozzles, pressure generating chambers filled with ink to be discharged from said nozzles, and piezoelectric actuators corresponding to respective pressure generating chambers, said ink jet head discharging ink droplets from said nozzles by changing volumes of said pressure generating chambers in response to a drive waveform signal applied to said piezoelectric actuators, said drive circuit comprising:

a waveform generator generating said drive waveform signal;

a power amplifier amplifying said drive waveform signal supplied to a first input of said power amplifier and outputting said drive waveform signal to said piezoelectric actuators; and

a feedback loop feeding back a terminal voltage of said piezoelectric actuators and said output signal of said power amplifier to a second input of said power amplifier.

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4. (Previously Presented) The drive circuit of claim 3, wherein said feedback loop includes a capacitor producing a lead to phase signal in a high frequency range.

5. (Previously Presented) A method of driving an ink jet head, said ink jet head having nozzles, pressure generating chambers filled with ink to be discharged from said nozzles, and piezoelectric actuators corresponding to respective pressure generating chambers, said ink jet head discharging ink droplets from said nozzles by changing volumes of said pressure generating chambers in response to a drive waveform signal applied to said piezoelectric actuators, said method comprising the steps of:

generating said drive waveform signal;

inputting said drive waveform signal to a first input of a power amplifier to produce an amplified drive waveform signal, and supplying said amplified drive waveform signal to said piezoelectric actuators; and

feeding said amplified drive waveform signal supplied to said piezoelectric actuators back to a second input of said piezoelectric actuators.

6. Cancelled

7. (Previously Presented) A drive circuit for an ink jet head of a serial type ink jet printer, the ink jet head including a carriage, nozzles, and pressure generating chambers filled with ink, wherein said ink jet head discharges ink droplets from the nozzles by changing volumes of said pressure generating chambers in response to a drive waveform signal applied to piezoelectric actuators corresponding to said pressure generating chambers while moving said carriage reciprocally in a direction perpendicular to a feeding direction of a printing sheet, said drive circuit comprising:

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a control circuit board including a waveform generator generating a signal for driving said ink jet head, a power amplifier amplifying the output signal of said waveform generator, an image memory storing printing data, and a data transmitter transmitting image data stored in said image memory as serial data thereon;

an intermediate circuit board mounted on said carriage, said intermediate circuit board including a data receiver receiving said serial data from said data transmitter, transfer gates selecting piezoelectric actuators on the basis of said received printing data, and a level shifter matching voltage levels from said data receiver to respective transfer gates;

a cable connecting said control circuit board and said intermediate circuit board to each other; and

a negative feedback loop including a resistor and a capacitor, said negative feedback loop provided between said power amplifier included in said

control circuit board and inputs of said transfer gates included in said intermediate circuit board.

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8. (Previously Presented) The drive circuit of claim 7, further comprising a negative feedback loop including a resistor, said negative feedback loop being provided between an output and an input of said power amplifier mounted on said control circuit board.
